

FIG. 11A

FIG. 11G

PATENT & TRADE

Altered C-terminus protein

[illegible]

FIG. 11H

FIG. 11I

FIG. 11J

FIG. 11K

A circular stamp from the Office of Intellectual Property (OIP). The text "OIP" is at the top, "MAR 27 2003" is in the center, and "PATENT & TRADEMARK OFFICE" is at the bottom.

FIG. 11L

FIG. 11M

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GTCCTACGTCAGTG
V L R P V

CCAGGGGATCCCGCAGGGGTCATCTCTCTCAGCTGCTCTGACGCTGTGCTACGGCAGACTGGAGAACAAAGCTGTTTCGGGGGATTCCGGGGGACGGGCTGCTCTCGCTTTTGTCGA
P G D P A G L H P L H A A L Q P V L R R E G S Q A V C G D S A G R A A P A P V G

TGATTTCCTGTGGTGACACTCACCTCACCCACGGGAAACCTTCTCAGGACCTGTTTCAGAGTGTCCTTGAGTATGGCTGCTGGTGAACCTGCGGAAGACAGTGGTGAACCTCC

FIG. 11N

FIG. 11S

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FIG. 11T

GGACCCCTGGGAGCTCTGGGAATTTGGAGTGACCAAGGTGTGCCCTGTACACAGGGGAGGACCCCTGCACCTGGATGGGGGTCCCTGTGGGTCAAATGGGGGGAGGTGCTGTGGAGTAA
AATACTGAATATATGAGTTTTTCAGTTTTGA



FIG. 11U



GGGCGTCTGGGCCCCAGGGCAGGGCGGTGTGTGAAGGGGGACCCGGGGCTTCGGCAAGCTGGTGCCCATGCGCTGTGTGCCTGCCCTGGGACGACAGCGCGCGCGCGCGCGCGCG
R R L G P Q G W R L V Q R G D P A A F R A L V A Q C L V C V P W D A R P P P P A A

GGGCGTCTGGGCCCCAGGGCAGGGCGGTGTGTGAAGGGGGACCCGGGGCTTCGGCAAGCTGGTGCCCATGCGCTGTGTGCCTGCCCTGGGACGACAGCGCGCGCGCGCGCGCGCG
R R L G P Q G W R L V Q R G D P A A F R A L V A Q C L V C V P W D A R P P P P A A

GGGCTCCCGGGGGTCCGGCTCCGGTGGGGTTAGGGCGCGCGGGGGAACAGCGACATCGCGAGAGCAGCGCAGGGCGACTCAGGGCGCTTCCCGCGAGGTG
G L P G V G V R L G L R A A G G N Q R R A E S S A G D S G R F P R R
A S P G S A S G W G * G R P G G T S D M R R A Q A T Q G A S P A G
P P R G R R P A G V E G G E G E P A T C G E Q R R R L R A L P P Q V

CCCTCTCTTCGGCCAGGTGTCTCTGCTGAGGAGCTGGTGGCCCCAGTGCTGCAGAGCGTGTGCGAGCCCGGCGCGAAGAACGTGTCTGGCCTTCGGCTTCGGCTGCTGGACGGGGCCCC

GGGGGGCCCCCGAGGCTCTACCAACAGGCTCGCCAGCTACCTGCCACACGGTACACCAACCACTCGGGGGAGCGGGCGCTGGGGGCTGCTCTGCCCGCCGTGGGCGACGACGT
G G P P R A P T T S V R S Y L P N T V T D A L R G S G A W G L L L R R V G D D V

GCTGGTTCACCTGCTGGGCACGCTGCGGGCATCTTTGTGCTGGTGGCTCCACCTGCGGCTACAGGTGTGGGGCGCGCGCTGTACACAGCTCGGGCGCTGCCACTGAGCGCGCGCGCGCGCGCG
 L V H L L A R C A L F V L V A P S C A Y Q V C G P P L Y Q L G A A T Q A R P P P

ACAGCCTAGTGGACCCCGAGGGCGTCTGGGTTCGGAACGGCGCTGGAACTAGGCTAGGAGGCGGGGCTCCCCCTGGGGCTGCCAGCCCGGGTTCGAGGAGGCGCGGGGCGAGTGC
H A S G P R R R L G C E R A W N E S V E R A G V P L G L P A P G A R R R R G G S A

CAGCGGAGTCTCGCGTTGCCCAAGAGGCCCAAGCGTGGCGCTGCCCGGAGCGCGAGCGGACCGCCGTGGGGCAGGGTCTCTGGGGCCACCCGGCCAGGACCGCTGGACCGAGTGAACG
 S R S L P L P K R P R R G A A P Z P Z R T P V G Q G S W A H P G R T R G P S D R

TGGTTCCTGTGTGGTGTGCACTGCCAGACCCGCGGAGAGCAAGCCACTCTCTGGAGGGTGGCGCTCTGTGGCAGCGGCCACTGCCACCCATCCGTGGGGCCGCGAGCACCACCGGGGGCCCCC
 G F C V V S P A R P A Z Z A T S L E G A L S G T R H S H P S V G R Q H H A G P P

ATTCACATCGCGGGCCACCGTCCCTGGGACACGCTTGTCCCCCGGTATACGGCGAGACAGGACTTCTCTACTCTCAGCGGACAGGAGCAGCTCGCGCGCTCTCTCTACTCAG
S T S R P P R P W D T P C P P V Y A Z T K S P L Y S S G D K E Q L R P S P L L S

CTCTCTGAGGCCGACGCTGACGGCGCTGGAGGCGCTGGAGACCATCTTGGGCTCAGGCGCTGGATGCCAGGGAAGTCCCCCGAGGTGCCCCCGCTGCCCCAGCGCTACTGGCA
S L R P S L T G A R R L V E T I P L G S R P M M P G T P R R L P R L P Q R Y N Q

~~AATGGCGGCCCTGTTTCTGAGCTGCTTGGGAACACGCGCAGTGGCCCTACGGGTCTCTCTCAAGACGCACTGCCGCTGGGAGCTGGCGTCACTCCGACGAGCGCGTGTCTGTGCGCG
 N R P L F L E L L G N H A Q C P Y G V L L K T H C P L R A A V T P A A G V C A R~~

GGAGAGACGCCCGGGCTCTGTGGCCGCCCCCAGGAGGAGGACACAGAGCCGCCTTCTGTTTGTCGCTGTCCGACGACAGCAGCCCTCCGGAGGTGTACGGCTTCTGTCCGGGCTTG
E K P Q G S V A A P E E E D T D F R Z L Y Q L L R Q H S S P W Q V Y G F V R A C

CTCTGGCGGGCGGTGTCGCCCGAGGCTCTGGGGCTCAGGCCAAGCAAGCGGGCTTTTTCAGGAACACCAAGAGTTTCATCTCCCTGGGGGAAGCATGCCAAGCTCTCCCTGCAGGAGCT
 L R R L V P P G L W G S R H N Z R R P L R N T K K P I S L G K H A K L S L Q E L

GACATGGAGAATGAGCCTGCGGACTCGCGTGGCTGGCCAGGAGCCGAGGGTGGCTGTGTTCGGCCGACAGACAGCTCTGGCTGAGGAGATCTCGCCAAAGTCTCTGCACCTGGCT
 T W K N S V R D C A W L R R S P S V G C V P A A E H R L R E S I L A K P L H W L

GATGAGTGTTGACGTCGTGAGCTGCTCAGGTCCTCTCTTTATGTGTCAGCGAGACCACTCTTAAAGACACAGGCTCTTTCTACCGGAAGAGTGTCTGGAGCAAGTTGCAAGGCAATTGG
N S V Y V V E L L R S P P Y V T E T T F Q K N R L F P Y R K S V W S K L Q S : G

AATTGAGCAGCACTTGAAGAGGGTGCAGCTGCGGGAGCTGTGCGAAGCAGAGTTCAGGACGACTCGGAGGCCAGCGCGCGCTGTGTGACGTCCGAGACTCCGGCTTCATCCCGCAAGCTGA
 I R Q H L K R V Q L R E L S E A E V R Q H R E A R P A L L T S R L R F I P K P D

CGGGCTCGGCGCGATGTGGAACATGGACTACGCTCTGGGAGCCAGAACCTCTGCGAGAAAAGAGGGCCGAGCGTCTCAGCTCGAGGGTGAAGGCACGTGTCAGCGTGCTCAACTACGA
G L R P I V N M D Y V V G A R T P R R E K R A E R L T S R V K A L F S V L N Y S

RARRPGLLGASVLLGLDDI: HRAWRTPVLRVRAQDPPPEELYF

TGTCAGG GACAGGCTCAGCGAGTCTATGCGCAGCATCATCAAAACCCGAGAACACGCTACTCGGTGGGTCCGGTATGCGGTGGTCCA
V K D R L T E Y : A S I I K P Q N T Y C V R R Y A V V Q

GAAGGCGCGCCCATGGCGACGTCTCCCAAGCGCTTCAAGAGCCACGTCTCTACCTTGACAGAGCTTTAGCCGTACATCGGCACAGTTCCTGGCTCAGCTTGCAGGAGACCGAGCCCGCTGAGGGA
K A A H G H V R K A P K S H V S T L T D L Q P Y M R Q P V A H L Q E T S P L R D

TGGCGTCGTCATCGACGAGAGCTCCTCCCTCGAATGAGGCGACGAGTGGCCCTTCGACGCTCTCTACGCTTCATGTGCCACGACGCGGTGCCCATCAGGGGCAAGTCTCATCTCCAGTG
 A V V I R Q S S S L N E A S S G L P D V F L R P M C H H A V R I R G G K S Y V Q C

CGACGGGGATCCCGCAGGGCTCCATCTCTCTGCACGCTGCTCTGCAGCCTGTGTACCGGCGACATGGAGAACACAGCTGTTTGGCGGGATTCCGGCGGACCGGGCTGCTCTCGCTTTGGTGA
Q G I P Q G S : L S T L L C S L C Y G D N E N K L F A G I R R D G L L L R L V D

TGATTCTCTGTGGTGACACCTCACCTCACCCACGCGAAAAACCTTCTCAGGACCTTGTTGGGTTCTCTGAGTATGCGCGCTGGTGAACCTCGCGGAAGACAGTGGTGAACCTTCCC
 D P L L V T P H L T H A K T P L R T L V R G V P E Y G C V V N L R K T V V N P P

TGTTAGAAGACGAGCGCCCTGGTGGCACCGGCTTTGTTGAGATGCGCGCGGACGGCTATATTTGTTGCGCGCTGCTGCTGGATACCCGGACCTCGGAGGTGCAGAGCGGCTACTCCAG
 V S D E A L G G T A F V Q M P A H G L F P P W C G L L L L D T R T L E V Q S D Y S R

GTGAGCGCAGCTGGCCGGAGTGGAGCCTGTGCCCCGGCTGGGGCAGGTGCTGCTGCGGGCCGTTGCTGCAAGCTCTGCTTCCGTGTGGGGCAGGGCACTGCCAATGCCAAGGGTCA

TCGCCACAGGGGTGCCCTCTGCCATCTGGGGCTGAGCACAATGCATCTTTCTGTGGAGTGGAGGTGCTTCACACGGGAGCAGT.TTCTGTGC.ATTTTGTAA

FIG. 11V

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[illegible]

GGCCCTCCCGGGGTGGCGGTCCGGTGGGGTGGGGCGCGCGGGGGAACAGCGCATGCGGAGAGCAGCCAGGCGACTCAGGGCGCTTCCCGCGAGGTG
G L P F G V G V R L G L R A A G G N Q R H A E S S A G D S G R F P P R R
A S P G S A S G W G * G R P G G T S D M R R A A Q A T Q G A S P A G
P P R G R R P A G V Z G G R G S P A T C G E Q R R R L R A L P P Q V

CCCCCTCTCTCCGCGAGGTGTCTCTGCTGAAGGAGCTGTGTGCCCCAGTGTGTGAGGCTGTGTGAGCGCGCGCGAGAGAACGTCTCTGGCTTTCGGCTTCCGCTCTCTGGAGCGGGGCCCCG
P S F R Q V S C L K E L V A R V L Q R L C E R G A K N V L A F G F A L L D G A R

CGGGGGCCCCCGAGGGCTTCAACACAGGGTGCGGAGCTACTCTGCCACACGGTAGCCACGCACTGCGGGGAGCGGGGCGTGGGGGCTGCTGCTGGCCGCCGCTGGGCGACGACGT
G G P P E A F T T S V R S Y L P N T V T D A L R G S G A W G L L L R R V G D D V

GCTGGTTCACCTGCTGGCCAGCTGCGCGCTCTTTGCTGCTGGCTCCAGCTGCGCCACACAGGTGTGCGGGCCGCCGCTGTACCAAGCTCGCGCGCTGCCACTCAGGCCCGCGCGCGCGCGCG
 L V H L L A R C A L P V L V A P S C A Y Q V C G P P L Y Q L G A A T Q A R P P P

ACACGCTAGTGGACCCCGAAGCGCTCTGGGATGCGAACCGGGCTGGAACCATAGCGCTAGCGAGGCGCGGGCTCCCCCTGGGGCTGCCAGCCCCGGGTCCGAGGAGGCGCGGGGGCAGTGC
H A S G P R R R L G C E R A W N H S V R E A G V P L G L P A P G A R R R R G G S A

CAGCCGGAAGTCTGCGGTTGCCCAAGAGCCGCGAGGCGTGGCCCTGCCCTGAGCCGGAGCGGACGCCCGCTGGGGCAGGGGTCCTGGGCCCACCCGGGGCAGGAGCCGCTGGACCGAGTGACCG
 S R S L P L P K R P R R G A A P E P S R T P V G Q G S W A H P G R T R G P S D R

TGGTTCTGTGTGTTGTTGTCACCTGCCAGACCCGCCGGAAGAACCCACTCTCTTGGAGGGTGGCTCTCTGGCCACGGCCCACTCCCAACCATCCCTGGGGGGCCGACCAACCGGGGGCCCCC
 G F C V V S P A R P A E S A T S L E G A L S G T R H S H P S V G R Q H H A G P P

ATTCACATCGCGGCGACCAAGTCTCCCTGGGACAGCCCTGTCTCCCGCGGTATACCGCGAGACGAGCACTTCTCTACTCTCTCAGGGCGACAAGGAGCACTCTCGGGCCCTCTCTTCTACTCAG
S T S R P P R P W D T P C P P V Y A Z T K H P L Y S S G D K E O L R P S P L L S

CTCTCTGAGGCCGACGCTGACTGCGCGCTGGGAGGCTCTGGAGACCATCTCTCTGGTTCTGAGGCGCTGGATCCGAGGGGACTCTCCCGCAGGTGTGCCCCGCTTGCCCCAGGGCTACTGGCA
S L R P S L T G A R R L V E T I P L G S R P W M P G T P R R L P R L P O R Y W O

AATCGCGCCCGCTGTTCTGGAGAGCTGCTGGGACCAACGCGGAGTGGCGGCTACCGGGTGTCTCTCAAGAGCCACTGCCCGCTGGCAGCTCGGCTACCCCGAGCAGCGGGTGTCTGTGCGCG
 M R P L P L E L L G N H A Q C P Y G V L L K T H C P L R A A V T P A A G V C A P

GGAGACAGCCGACGGCTGTGTGGCGGCCCGAGGAGGAGACACAGACCCCTGTCTGTGTGACGCTGCTCCCGACGACAGCAGCCGCGCTGGCAGGTGTACGGCTTCTGTGGGGCTGT
R K P Q G S V A A P E E E D T D P R R L V J L L R Q H S S P W O V Y G P V R A C

CTCTGCGCGCGCTGGTGGCCCCAGGGCTCTGGGGCTCCAGGGCAACGAACTGGCTCTCTCAGGAACCCAGAAGTTCATCTCCCTGGGGAGGCATGCCAAGCTCTGGCTGCCAGGAGCT
L R R L V P P G L W G S R H N E R R F L R N T K K P I S L G K H A K L S L Q F L

TACGCTGGAGATGAGCGTCCGGGACTCCGCTTGGCTGCCGACGAGGCCAGGGCTTGGCTGTCTCCGGCCGACAGACACCGTCTCGGTCGAGGAGATCTCTGGCCCAAGTCTCTGCACTGGCT
 T W K M S V R D C A W L R R S P G V G C Y P A A E H R L R S E I L A K F L H W L

GATGAGTGTGTACGTCGTGGAGCTGCTCAGGCTCTTCTTTATGTCACGGAGACACGTTTCAAAGAACAGGGCTCTTTTCACCGGAGAGGTGTCGGAGCAAGTTCGAAGCAATTGG
 M S V Y V V E L L R S P P Y V T S T T F Q K N R L P P Y R K S V M V S K I O S I C

ATATCAGACAGCACTTGAAGAGGCTCCAGCTCCGGGAGCTCTCCGAAGCAGAGGTGAGGACGCTCCGGAAGCCAGGCCCCCGCCCTGCTGACGTCCAGACTCCGCTTCATCCCCAAGCGCTGA
I R Q H L K R V Q L R E L S E A E V R Q H R E A R P A L L T S R I T P I T K R D R

GGCGCTGGCGCGGATGTGGAACATGGACTACGTCGTCGGGAGCCAGAACGCTCCGCGAGAGAAAAGAGGGCCGAGCGGTCTCAGCTCGAGGGGTGAAGGCGACTGTTTCAGCGTCGCTCAACTACGA
G L R F I V N M D Y V V G A R T P R R Z K R A S R L T S R Y K A L P G V L N V C F A

R A R R P G L L G A S V L G L D D I H R A W R T F V L R V R A O Q N D P P E Y V

GTCAGG
 V K
 GACAGGGCTCAGGAGGCTCATCCSCAGCATCATCAAACCCAGAAACGGTACTCGGTGGCTCGGTATGCCGTTGGTCA
 D R L T E V : A S I I K P O N T Y C V R P R Y A V V C

AAAGGCGCCGCCATGGGCACGCTCCSCAAGGCCCTTCAAGAGGCCAGCTGTCTACCTTGACAGACTTCGACGCCCTTACA TGGCAGAGTTCTGTGGCTCACCTTCAGGAGACCAGCCCGCTGAGGGA
K A A H G H V R K A P K S H V S T L T D C O P Y M R O F V A H I E N Q R R I A S V V G

[illegible][illegible]

GATTTCCTGTTGGTGACACCTCACCCTCACCCAGCGAAAACTTCTCTCAGGACCTGTGCTCAAGCTGCCCTGAGTAGCGCTGCCTGAACCTCCGGAAGAAGTCAGTGGTGAATTCCTCC
D F L L V T P H L T H A K T F L R T L V R G V D P V C G V U N I E R S I T Y O F M E D I C I N E

TGTACAGACCGAGGCCCTGGTGGCCACGGCTTTGTTGCAGATGCGGGCCCCACGGCCTATTTCCTGGTGGCGGGCTGCTGCTGGATACCCGAGCCCTGGAGGGTGACAGACGGA

TATGCCCGGACCTCCATCAGACCCAGTCTCACCTTC AACCGCGGGTCAAGGTGGGAGGAACATCGCTCCCAAACCTCTTGCGGCTCTGC CGCTGAAGTGTCA CAGCGCTGTTCTCGA

TTGCAGGTTGAACAGCCTTCAGACGGTGTGCACCAACATCTACAGATCTCTCTCTCTGCAGGCTTACAGGTTTACGCGCATGTGTGCTGCAGCTCCCATTTTCATCAGCAAGTTTGGAGAA

[illegible]

CCGAGGAAACATTTCTGTCGTGACTCCTGCGGTGCTTGGGTC
E E N I L V V T P A V L G S

GGGACAGCCAGAGATGGAGCCACCCCGCAGACCGTGTGGGTGTGGGCAGCTTTCGGGTCTCTCTGGGAGGGGAGTTGGCGCTGGGCGCTGTGACTCTCTCAGCCCTCTGTTTCCCCCAG
G Q P E N E P P R R P S G V G S P P V S P G R G V G L G L .

FIG. 11W